

Amended Claims

Claims 1-16 (cancelled).

Claim 17 (previously presented): The method of claim 29 wherein the first and second monocrystalline materials consist essentially of silicon.

Claim 18 (previously presented): The method of claim 29 wherein the first and second monocrystalline materials consist essentially of silicon, and wherein the insulative layer consists essentially of silicon dioxide.

Claim 19 (previously presented): The method of claim 29 wherein the mask comprises a layer consisting essentially of silicon nitride over a layer consisting essentially of silicon dioxide.

Claims 20-27 (cancelled).

Claim 28 (previously presented): The method of claim 29 wherein the anneal comprises maintaining the semiconductive material at a temperature of from about 800°C to about 1100°C for a time of from about 20 seconds to about 5 minutes.

Claim 29 (previously presented): A method of forming semiconductor circuitry, comprising:

providing a substrate comprising a first monocrystalline material, an insulative layer over the first monocrystalline material, and a second monocrystalline material over the insulative layer and spaced from the first monocrystalline material by at least the insulative layer; the second monocrystalline material consisting essentially of a first element;

forming a mask to cover a first portion of the second monocrystalline material while leaving a second portion uncovered;

removing at least some of the uncovered portion to form a recess;

after forming the recess, forming an insulative material spacer along a sidewall of the recess;

after forming the insulative material spacer, entirely filling the recess with a semiconductive material comprising at least 1 atomic percent of an element other than the first element, the semiconductive material consisting essentially of Si and Ge, with the Ge being present to an atomic concentration of from about 1% to about 20%, the semiconductive material being formed along the insulative material spacer;

chemical-mechanical polishing the semiconductive material to form a planarized surface which extends across the semiconductive material and mask;

after the chemical-mechanical polishing, exposing the semiconductive material to a laser to anneal the Si and Ge of the semiconductive material;
removing the mask after the anneal;
after removing the mask, forming a first semiconductor circuit component over the first portion of the second monocrystalline material; and
forming a second semiconductor circuit component over the semiconductive material.

Claim 30 (original): The method of claim 29 wherein, after the removal of the mask, the semiconductive material extends above an uppermost surface of the first portion of the second monocrystalline substrate by a distance of from about 50Å to about 200Å.

Claims 31-60 (cancelled).

Claim 61 (previously presented): The method of claim 29 wherein the first element is silicon.

Claim 62 (new): The method of claim 29 wherein the recess extends entirely through the second monocrystalline material.

Claim 63 (new): The method of claim 62 wherein the recess extends into the insulative layer.

Claim 64 (new): The method of claim 29 wherein the recess extends entirely through the second monocrystalline material and entirely through the insulative layer.

Claim 65 (new): A method of forming semiconductor circuitry, comprising:

providing a substrate comprising a first monocrystalline material, an insulative layer over the first monocrystalline material, and a second monocrystalline material over the insulative layer and spaced from the first monocrystalline material by at least the insulative layer; the second monocrystalline material consisting essentially of silicon;

forming a mask to cover a first portion of the second monocrystalline material while leaving a second portion uncovered;

removing at least some of the uncovered portion to form a recess;

after forming the recess, forming an insulative material spacer along a sidewall of the recess;

after forming the insulative material spacer, entirely filling the recess with a semiconductive material comprising at least 1 atomic percent of an element other than silicon, the semiconductive material being formed along the insulative material spacer;

chemical-mechanical polishing the semiconductive material to form a planarized surface which extends across the semiconductive material and mask;

removing the mask;

after removing the mask, forming a first semiconductor circuit component over the first portion of the second monocrystalline material and

forming a second semiconductor circuit component over the semiconductive material.

Claim 66 (new): The method of claim 65 wherein the semiconductive material consists essentially of silicon and germanium.

Claim 67 (new): The method of claim 65 wherein the semiconductive material consists essentially of silicon and carbon.

Claim 68 (new): The method of claim 65 wherein the semiconductive material consists essentially of a II/V compound.